

# Sharp increase of acute ischemic stroke treatment rates in Aosta Valley after adoption of a stroke-specific protocol and a stroke public awareness campaign.

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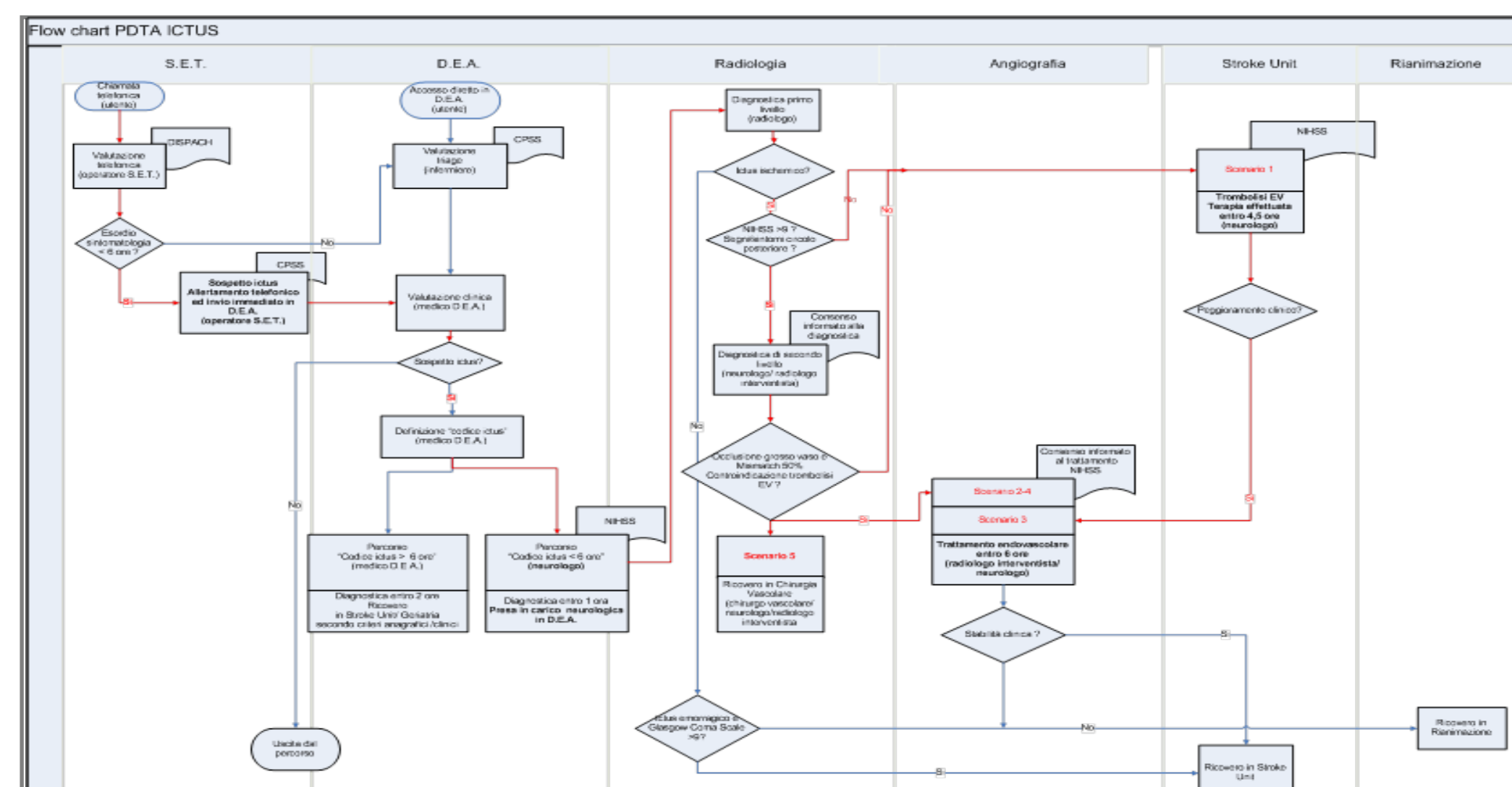
**Introduction.** Intravenous thrombolysis with alteplase and endovascular thrombectomy of intracranial large vessel performed in the first hours from ischemic stroke onset are the only two evidence-based treatments improving functional outcome and reducing mortality after an acute ischemic stroke. However, assistance organizational difficulties, both in the pre-hospital and in the hospital phase, lack of awareness of the disease resulting in inability to recognize the symptoms of stroke presentation, explain the low rates of these treatments elsewhere. On average, these strategies are performed only in 1-2% of all stroke patients.

**Materials and methods.** In the Aosta Valley Region, about 128,000 residents, there is only one hospital for acute patients, with a total of 350 beds; this hospital receive most of the 175 mean annually cases of first ever ischemic stroke. The hospital is equipped with a 4-bed Stroke Unit, located in the Neurology Department, which has others 14 beds. There is also a 24 hours Diagnostic Radiology and Operational Interventional Neuroradiology. In this study we analyzed all patients admitted with a diagnosis of ischemic stroke and those treated with thrombolysis and/or thrombectomy.

**Results.** During the five-year study period, from 2012 to 2016, we found 93 patients treated by intravenous thrombolysis and/or mechanical thrombectomy. During this period, it has been estimated that between 2012 and 2015 approximately one patient/month was treated and 2.3 patients/month were treated in 2016. Currently, about 4 patients/month are treated, that means 27% of all patients admitted with a diagnosis of acute ischemic stroke. The annual increase of treated cases in 2016 was 125%, if compared to the previous years; in the first 5 months of 2017 the observed increase is 145% compared to 2016.

**Discussion.** The reasons for this increase are at least two. The first one was the adoption of a stroke-specific protocol, which extended the inclusion criteria, eliminating, for example, upper age limit and other relative contraindications, as suggested by the Italian Stroke Organization, before updating the current ISO-SPREAD Guidelines (1). The second one is the implementation of a public awareness campaign (Agisci in fretta, l'ictus non aspetta) on early recognition of stroke presentation symptoms, promoted by ALICE (Associazione per la Lotta all'Ictus Cerebrale), a stroke association operating in our region since 1997.

**Conclusion.** In order to improve treatment rates in acute ischemic stroke, specific efforts are needed to optimize health system organization in the emergency phase and to raise stroke awareness and recognition in people at risk.



PREVENIRE È MEGLIO CHE CURARE

Le strategie di prevenzione dell'ICTUS sono più efficaci se vengono attuate quando l'ICTUS non si è ancora manifestato, ossia in soggetti "che stanno bene".  
E' consigliabile effettuare periodiche visite presso il proprio medico di famiglia che provvederà a verificare il vostro profilo di rischio vascolare.

NON FUMARE  
PRATICARE ATTIVITÀ FISICA E SPORTIVA  
CONTROLLARE IL PESO CORPOREO  
LIMITARE L'ALCOHOL  
CORREGGERE L'ALIMENTAZIONE  
LIMITARE IL SALE NELLA DIETA  
CONTROLLARE LA PRESSIONE ARTERIALE  
CONTROLLARE LA GLICEMIA  
ATTENZIONE ALLA FIBRILLAZIONE ATRIALE

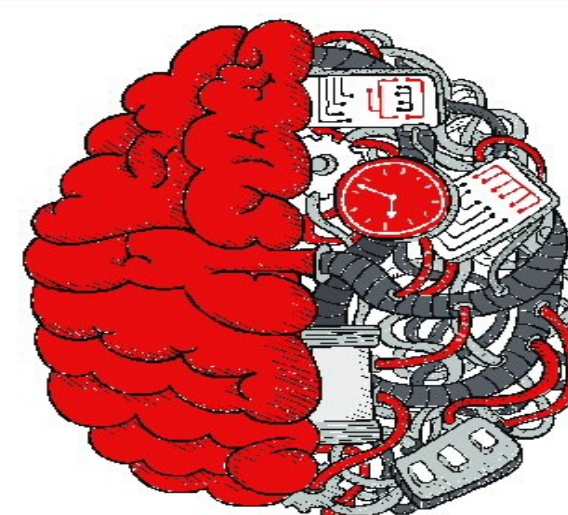
AGISCI IN FRETTA L'ICTUS NON ASPETTA

INFO E RECAPITI

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CAMPAGNA INFORMATIVA DI SENSIBILIZZAZIONE SULL' ICTUS PERCHÉ IL TEMPO È CERVELLO!



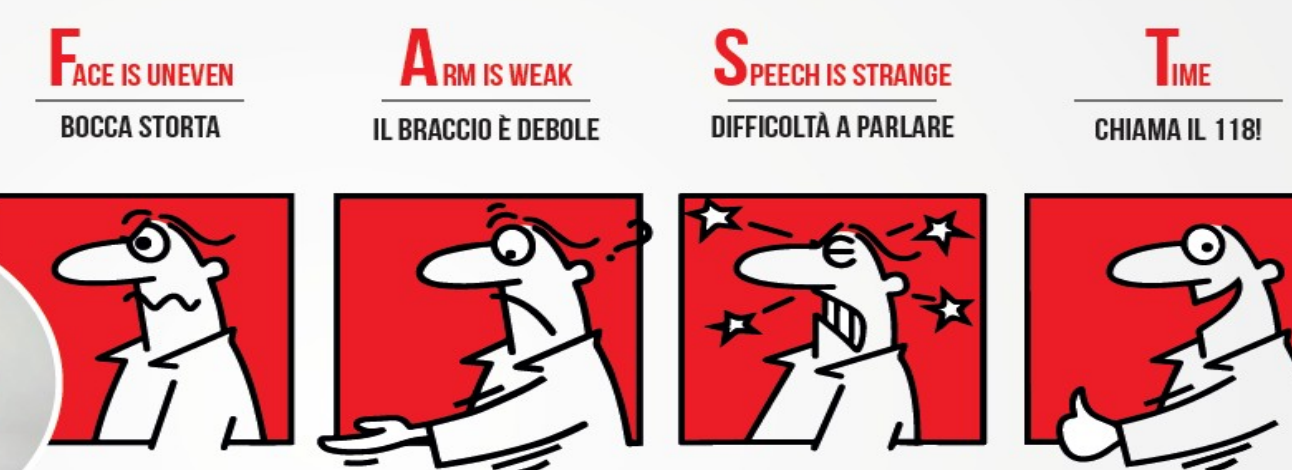
CHE COS'È L'ICTUS

L'ictus è il danno cerebrale causato dall'interruzione del flusso di sangue al cervello per l'ostruzione (ictus ischemico, il più frequente) o la rottura di un'arteria (ictus emorragico).



Le cellule cerebrali colpite, prive dell'ossigeno e dei nutrienti trasportati dal sangue, iniziano a morire nel giro di pochi minuti e le funzioni controllate da quella zona del cervello vengono meno con la comparsa di sintomi, talvolta solo transitori (attacco ischemico transitorio, TIA).  
L'ictus può colpire tutti. Negli adulti è la prima causa di invalidità e la seconda di morte al mondo.

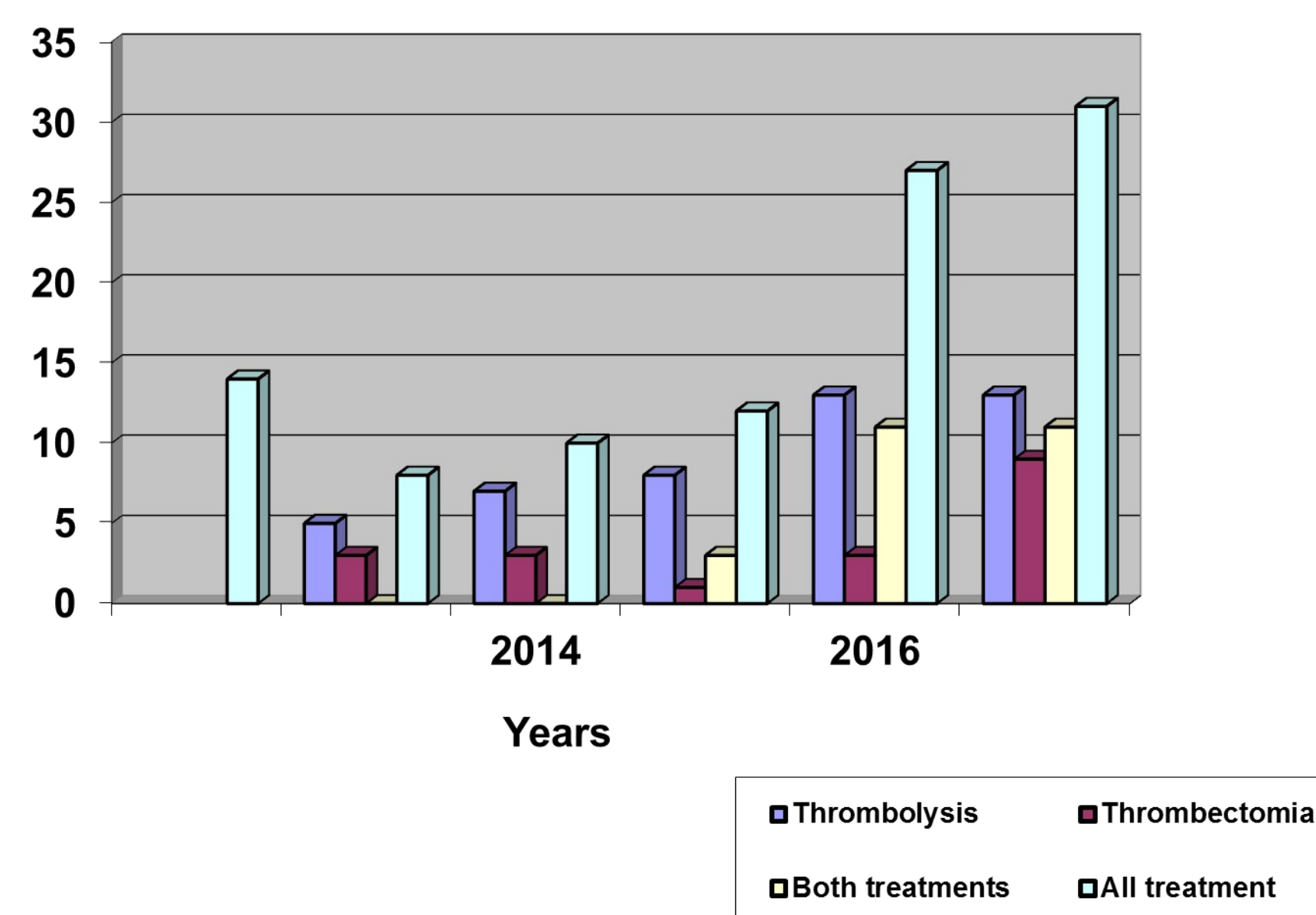
COME RICONOSCERLO



SE RICONOSCI UNO DI QUESTI SINTOMI CHIAMA IMMEDIATAMENTE IL 118

IMPROVVISA DEBOLEZZA, PARALISI O DISTURBO DELLA SENSIBILITÀ (GENERALMENTE SOLO IN UN LATO DEL CORPO, VISO, BRACCIO O GAMBIA) - CECITÀ IMPROVVISA (SPESSO SOLO DA UN OCCHIO) O DIPLONIA (VEDERE DOPPIO) - DISTURBO DEL LINGUAGGIO E DIFFICOLTÀ DI COMPRENSIONE - FORTE VERTIGINE CON INCAPACITÀ DI CAMMINARE - MAL DI TESTA IMPROVVISO, INSOLITO, FORTISSIMO

Stroke Acute treatment Aosta Hospital 2013-2017  
G. D'Alessandro et al. SIN, Napoli, 2017



1. Italian Stroke Organization (ISO) and Stroke Prevention and Awareness Diffusion (SPREAD) group Guideline on stroke prevention and treatment. VII Edition, 2006. [www.iso-spread.it](http://www.iso-spread.it)